

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
21 April 2005 (21.04.2005)

PCT

(10) International Publication Number
WO 2005/035093 A1

- (51) International Patent Classification⁷: **B01D 21/26**
- (21) International Application Number:
PCT/GB2004/004102
- (22) International Filing Date:
27 September 2004 (27.09.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
0323613.0 9 October 2003 (09.10.2003) GB
- (71) Applicant (*for all designated States except US*): **JONES & ATTWOOD LIMITED** [GB/GB]; Titan Work, Stourbridge, West Midlands DY8 3LR (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): **BACHE, John, Cedric** [GB/GB]; 27 Lea Vale Road, Stourbridge, West Midlands DY8 2AY (GB).
- (74) Agents: **CARPENTER, David et al.**; Marks & Clerk, Alpha Tower, Suffolk Street Queensway, Birmingham B1 1TT (GB).
- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: GRIT TRAP

(57) Abstract: A vortex grit trap comprising a generally vertically extending tank (11) of circular cross-section including a separation zone (12) having an inlet (14) and an outlet (15) for liquid flow to and from the tank, and in which liquid is circulated about a longitudinal axis of the tank, and, a grit collection zone (13) positioned beneath the separation zone (12) in use, the trap being characterised by a generally circular tank divider (18) centred on the vertical longitudinal axis of the tank and extending transverse thereto, the divider defining a notional boundary between the separation and collection zones of the tank and being of smaller diameter than the adjacent region of the tank so as to define with the adjacent tank wall an annulus (23) through which grit passes from the separation zone to the collection zone in use, and, means (18, 22, 25) for generating a cloud of gas bubbles migrating in use upwardly through substantially the whole of said annulus whereby substantially all grit passing from the separation zone into the collection zone passes through the upwardly moving bubble cloud in said annulus so that organic solids settling with the grit are displaced upwardly by the bubbles into the flow within the separation zone while the grit passes through the bubble cloud in the annulus and into the collection zone. There is also disclosed a method of separating grit from an aqueous sewage flow.



WO 2005/035093 A1